

A Report on a Collection of Mammals from Southwest Papua, 1972-1973

JOHN WAITHMAN

New South Wales Department of Agriculture
Agricultural Research Station
Cowra, N.S.W.

ABSTRACT

A survey of the mammals in southwest Papua New Guinea was made in 1972-73 and thirty-nine indigenous and four introduced species are discussed. The indigenous species consist of one monotreme, 14 marsupials, 8 rodents, and 16 bats. The introduced species include the feral dog, feral pig, house rat and rusa deer. Five species are new records for Papua New Guinea and an additional three are new range extensions into southwest Papua.

INTRODUCTION

The southwest corner of Papua New Guinea is part of the Trans-Fly Plains, and is extremely interesting in terms of mammalian taxonomy. It appears to be the area of overlap between the Australian and the New Guinea-Indonesian mammalian fauna. Schodde and Calaby (1792) actually consider the fauna of this area to be an outlier of the northern Australian fauna, only recently separated in geological time by the Torres Strait. Some of the species reported, especially among the bats, appear to have characteristics midway between previously described species from Australia and others from West Irian-Indonesia, suggesting the existence of clines instead of separate species or subspecies. The fauna in this area is relatively undisturbed as the human population is low, being only about one person per three square kilometres.

ENVIRONMENT

A) Topography, Geology and Soils

The area covered by this survey is roughly 8000 square kilometres, bounded on the west by the West Irian-Papua New Guinea border up to Weam in the northern corner, eastward across to Dimisisi and Southward down to the coast

(see Fig. 1). The land is low and slightly undulating, with a maximum elevation of 55 metres above sea level along the Morehead Ridge. This ridge runs roughly east-west extending from Korombo to halfway between Mata and Derideri.

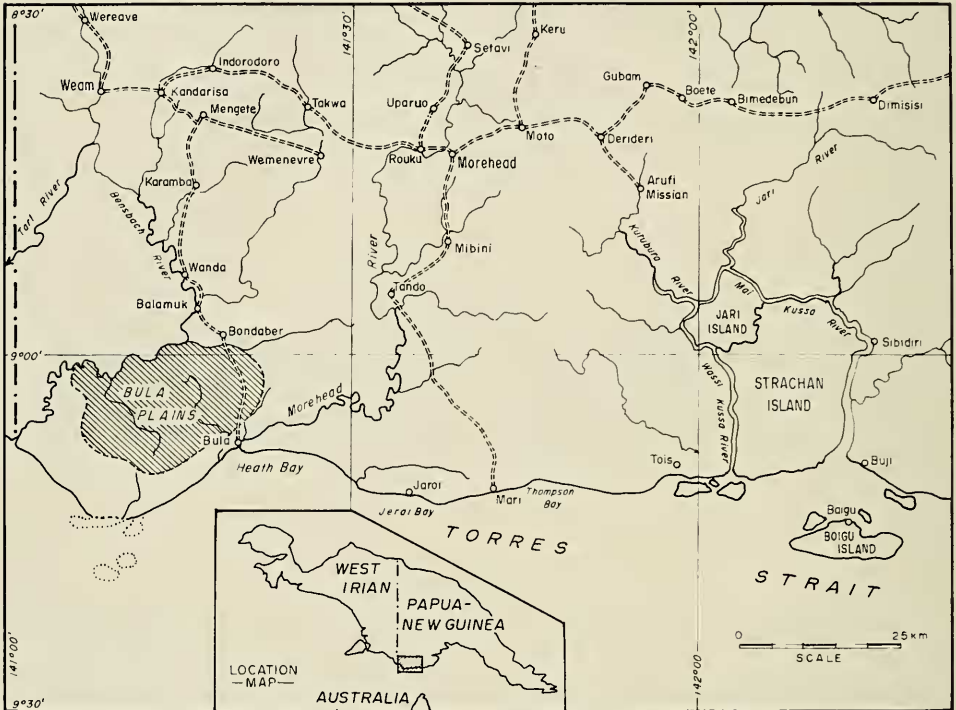


FIG. 1. Map of area surveyed showing places mentioned in the text.

Geologically the area consists of the Oriomo Plateau and a coastal plain. The plateau is made up of Pleistocene clay, and is broken by the broad and low Morehead Ridge. The coastal plain is divided into a back plain of recent clay, and a coastal strip of flats, low beach ridges and swales of recent littoral clay and sand.

B) Climate

The survey area has a monsoonal climate. Using ten years data from Morehead, the average annual rainfall is 1682 mm, with about 77% falling in the wet season between December and May. At the height of the wet season only the Morehead and other smaller ridges are above water, whereas at the end of the dry season water is present only in the larger rivers and billabongs.

REPORT ON A COLLECTION OF MAMMALS

TABLE 1

SYSTEMATIC LIST OF THE MAMMALS IN SOUTHWEST PAPUA

MONOTREMATA

Tachyglossidae

- 1) Short-beaked echidna

Tachyglossus aculeatus lawesi

MARSUPIALIA

Dasyuridae

- 2) Red-cheeked marsupial mouse
3) Marsupial mouse
4) Papuan marsupial mouse
5) Marsupial cat

Sminthopsis rufigenis
Sminthopsis new form
Planigale novaeguineae
Dasyurus geoffroii

Peramelidae

- 6) Spiny bandicoot
7) Rufescent bandicoot
8) Brindled bandicoot

Echymipera kalubu oriomo
Echymipera rufescens rufescens
Isoodon macrourus moresbyensis

Phalangeridae

- 9) Spotted phalanger
10) Long-fingered possum
11) Common striped possum
12) Sugar glider

Phalanger maculatus goldiei
Dactylonax palpator
Dactylopsila trivirgata kataui
Petaurus breviceps flavidus

Macropodidae

- 13) Agile wallaby
14) Red-legged wallaby
15) Dusky wallaby

Macropus agilis papuanus
Thylogale stigmatica oriomo
Thylogale bruijni bruijni

CHIROPTERA

Pteropodidae

- 16) Big-eared flying fox
17) Central flying fox
18) Bismarck flying fox
19) Collared flying fox
20) Greater naked-backed bat
21) Long-tongued fruit bat
22) Common blossom bat
23) Southern blossom bat
24) Common tube-nosed bat
25) Pallas' tube-nosed bat

Pteropus macrotis epularius
Pteropus alecto gouldii
Pteropus neolibernicus papuanus
Pteropus scapulatus
Dobsonia moluccensis magna
Macroglossus lagochilus nanus
Syconycteris crassa papuana
Syconycteris australis
Nyctimene albiventer
Nyctimene cephalotes

Emballonuridae

- 26) Bare-rumped tomb bat
27) Intermediate tomb bat

Taphozous nudicluniatu
Taphozous mixtus

Molossidae

- 28) Wrinkle-lipped mastiff bat
29) Beccari's mastiff bat

Tadarida jobensis
Tadarida beccarii

Vespertilionidae

- 30) Lesser New Guinea pipistrelle
31) Sanborn's evening bat

Pipistrellus tenuis
Nycticeius sanborni

RODENTIA

Muridae

- 32) Common water rat
33) Native-mouse
34) Little melomys
35) Rufescent melomys
36) Mottle-tailed tree rat
37) House rat
38) Dusky field rat
39) Southern spiny rat
40) Brush-tailed rabbit rat

Hydromys chrysogaster beccarii
Pseudomys delicatula
Melomys lutillus muscalis
Melomys rufescens niviventer
Uromys caudimaculatus aruensis
Rattus rattus
Rattus sordidus
Rattus leucopus
Conilurus penicillatus randi

CARNIVORA

Canidae

- 41) Domestic dog

Canis familiaris

ARTIODACTYLA

Suidae

- 42) Domestic pig

Sus scrofa papuensis

Cervidae

- 43) Rusa deer

Cervus timorensis

C) *Vegetation*

The area is basically covered with a tropical savannah, which is variously subdivided. The following vegetation types are taken from Paijmans *et al.* (1971). The Oriomo Plateau is mainly covered by tall mixed, low mixed and *Melaleuca* savannah and monsoon scrub. Tall mixed savannah consists of trees averaging 20 metres in height, with mainly a grass understory. Monsoon scrub has short scattered trees with an open to moderately dense scrub layer about one metre high, and a sedge ground cover. Low mixed savannah averages 15 metres in height while *Melaleuca* savannah consists of thin-stemmed *Melaleuca* trees averaging 10 metres tall, and both have a ground layer of grasses and sedges. The former two vegetation types occur on well to imperfectly drained sites while the latter two occupy sites of poor to very poor drainage.

The Morehead Ridge and other well drained areas are mainly covered with monsoon forest. The trees in this type of forest average 25 metres in height with an open to moderately dense canopy, and the scrub layer is moderately dense.

The coastal back plain is covered predominately by low grassland and swamp grassland with some *Melaleuca* swamp forest along the rivers, and is almost completely inundated during the wet season. Grassland is mainly low to mid-height grasses with abundant sedges and scattered *Pandanus* trees. Swamp grassland consists of almost pure *Pseudoraphis*, and low to mid-height sedge-grass vegetation. Both of these grassland types are mostly found on the Bula Plain, a 365 square kilometre area which occupies much of the coastal back plain from Bula to the Bensbach River.

The coastal strip vegetation consists of a dense littoral forest, averaging 30 metres in height, with an open understory. This forest grades into a mangrove woodland along the shore. The littoral forest is located on the nontidal flats and inland beach ridges, whereas the mangrove belt grows on the tidal flat.

D) *Land Use*

There are only about 2500 people, living in 28 villages, in the survey area. There is no industry, except for the very minor export of crocodile skins, and the local people subsist mainly on the products from their gardens, which is supplemented by hunting and fishing.

METHODS

The present survey was begun in November 1972 and was completed by December 1973. Seven collecting methods were used, some methods being more suitable for certain species than others.

REPORT ON A COLLECTION OF MAMMALS

Various sizes of Elliot, Havahart, and snap traps were used. The live traps were successful for all the murids except the native mouse. These also caught native cats and Red-cheeked Marsupial Mice. Snap traps only caught Little Melomys.

No bait was particularly successful, though tinned fish and fresh crayfish caught water rats, tree rats and native cats with some degree of success. Most of the murids were trapped by putting a combination of coconut, kaukau, and a ball of peanut butter-honey-oatmeal mixture in the Elliot traps.

Mist netting was used to catch bats, and was very successful for the Megachiroptera (especially the fruit bats and blossom bats) when erected in the local village gardens. Very few Microchiroptera were caught using this method.

Galvanized iron pits, 55 cm in diameter and 90 cm deep, sunk in the ground with their tops at ground level, were very successful in catching species that could not be taken by any other method. Native mice and marsupial mice were caught in this way.

Spotlighting and shooting were the main collecting methods for flying foxes, bandicoots and cuscus. Some of the tree rats were also collected in this way.

Hunting in the daytime was used to collect species, such as the macropods, that were too large to trap.

Local people were encouraged to bring in any mammal they found. Even with substantial rewards in the form of money, tobacco, or shotgun cartridges, this method was not very successful, although most of the Microchiroptera were obtained in this way.

Elderly men from villages were questioned about rarely seen species. From the descriptions they gave, a marsupial resembling a hare-wallaby or rat-kangaroo is present in the area, but is rare and very difficult to catch.

The general references used for identification purposes were Laurie and Hill (1954) and Lidicker and Zeigler (1968). In addition to these the following references were also used:— Menzies (1973) and Tate (1951) for murids; Anderson (1912), Troughton (1925), Hill (1961), McKean (1972) and Koopman (1973) for bats; Tate (1948a) for the macropodids; Tate (1948b) for the paramelids; Tate (1945) for the phalangerids and Tate (1947) for the dasyurids.

All the specimens collected and field number cards are deposited in the collection of the Department of Agriculture, Stock and Fisheries Wildlife Section Museum in Port Moresby, Papua New Guinea. Only field numbers are given for the specimens, since only part of the collection has been converted to museum numbers. The localities listed refer to the villages nearest the collection site.

RESULTS

Systematic Account

Order MONOTREMATA

Family Tachyglossidae

Tachyglossus aculeatus lawesi (Ramsay)

Short-beaked echidna

Specimen:— Skin and skull: 0064, unsexed juv., Tais.

Notes: This species was only found along the coastal strip, where it appeared to be locally abundant and was used by the natives for food.

Order MARSUPIALIA

Family Dasyuridae

Sminthopsis rufigenis Thomas

Red-cheeked marsupial mouse

Specimen:— Skins and skulls: 0019 ♀, Morehead; 0046 ♂, Wando; 0166 ♂, Bula.
In spirit: 0336 ♂, Bimedebun.

Sminthopsis new form

Specimens:—Skins and skulls: 0250 ♀, 0254 ♂, 0256 ♂, 0276 ♂, 0289 ♂,
0291 ♀, 0300 ♂, Morehead. In spirit: 0315 ♂, 0316 ♀, 0317 ♂,
0318 ♂, 0319 ♂, 0324 juv. ♂, 0327 juv. ♂, Morehead;
0311 ♂, 0314 ♀, 0328 juv. ♀, Mibini.

Notes: This marsupial mouse was only collected in the tall mixed savannah, using pit traps. One of the females (0250) caught in July 1973 had eight hairless young in the pouch while another (0316) caught in October 1973 had five hairless young.

Planigale novaeguineae Tate & Archbold

Papuan marsupial mouse

Specimens:— Skins and skulls: 0225 juv. ♂, Wando; 0271 ♂, Morehead.
In spirit: 0326 ♂, Morehead.

Notes: These are the first records of this species from western Papua.

Dasyurus geoffroii Gould

Specimens:—Skins and skulls: 0076 ♂, 0117 juv. ♂, Morehead; 0181 ♀,
Mibini. Skull only: 0246 ♀, Mari. In spirit: 0340 ♂, Morehead.

Note: This Dasyurid was previously unrecorded for Papua. *Dasyurus albopunctatus* Schlegel was the only native cat previously recorded in New Guinea.

Family Peramelidae

Echymipera kalubu oriomo Tate & Archbold

Spiny bandicoot

REPORT ON A COLLECTION OF MAMMALS

Specimens: Skulls only: 0333-4 unsexed, Bimedebun.

Notes: The only specimens were skulls from bandicoots, which had been collected by local villagers for food.

Echymipera rufescens rufescens (Peters & Doria)

Rufescent bandicoot

Specimens:— Skin and skull: 0071 ♂, Wando. Skull only: 0032 unsexed, Bimedebun.

Notes: One specimen was shot in grassland while the other was brought in by a native.

Isoodon macrourus moresbyensis (Ramsay)

Brindled bandicoot

Specimens:— Skins and skulls: 0059 unsexed, 0061 unsexed, Mari; 0069 ♂, 0070 ♀, Wando, 0118 juv. ♀, 0119 juv. ♂, Morehead, 0023 ♀, 0024 juv. ♂, Mibini. Skulls only: 0008 unsexed, 0020 ♀, 0021 unsexed, Morehead; 0108 juv. ♀, Wando; 0193 ♂, Tais.

Notes: This bandicoot was very common in most habitats. One female (0020) obtained in March 1973 had a pouched young with hair just erupting.

Family Phalangeridae

Phalanger maculatus goldiei (Ramsay)

Spotted phalanger

Specimens:—Skins and skulls: 0014 ♂, Morehead; 0204 ♀, Tais. Skulls only: 0039 unsexed, 0041-3 unsexed, 0047 unsexed, 0098 unsexed, Wando; 0114-5 unsexed, Korombo; 0187 unsexed, Tais.

Notes: This phalanger was common in wooded areas, especially near water. All of the specimens were collected by hunting, the "skulls only" specimens were taken by natives for food.

Dactylonax palpator (Milne-Edwards)

Long-fingered possum

Specimens:— none

Notes: Two live possums were obtained from local villagers before the survey started but they unfortunately escaped. They were collected while trees were being felled during road building.

Dactylopsila trivirgata kataui (Matschie)

Common striped possum

Specimens:— Skin and skull: 0030 ♂, Mibini. Skin only: 0194 ♂, Tais.

Petaurus breviceps flavidus Tate & Archbold

Sugar glider

Specimen:— Skin and skull: 0049 ♀, Dimisisi.

Notes: The sugar glider was very common in wooden areas and was often seen on blossoming banksias at night using a spotlight.

Family Macropodidae

Macropus agilis papuanus (Peters & Doria)

Agile wallaby

Specimens:— Skull only: 0006 ♂, 0127 unsexed, Tonda.

Notes: Agile wallabies were common in the grassy clearings along the rivers and on the Bula Plains. This species was the one most commonly hunted by the local villagers for food.

Thylogale stigmatica oriomo (Tate & Archbold)

Red-legged wallaby

Specimens:— Skins and skulls: 0010 ♂, 0011-2 ♀, 0245 ♂, Mibini;
0130 ♂, Tonda.

Notes: These wallabies were shot in low mixed savannah or woodland near swamps and they did not appear to be very common.

Thylogale bruijni bruijni (Schreber)

Dusky wallaby

Specimens:— Skins and skulls: 0251 ♂, 0253 ♂, Tokwa.

Notes: As opposed to the red-legged wallaby, this species was found in the thickest monsoon forest, which was an uncommon vegetation type in the survey area.

Order CHIROPTERA

Family Pteropodidae

Pteropus macrotis epularius (Ramsay)

Big-eared flying fox

Specimens:— Skins and skulls: 0125 ♂, 0126 ♀, 0131-2 ♂, Tonda; 0148 ♀,
0160 ♂, Bula; 0211 ♂, 0227 ♂, 0228-9 ♀, 0233 ♀, 0234 ♂,
0242 ♂, 0338 ♂, Wando; 0213 ♀, Morehead. Skull only:
0268 ♂, Bula.

Notes: This bat was common in the survey area and was collected mainly from low mixed savannah and the gardens of natives.

REPORT ON A COLLECTION OF MAMMALS

Pteropus alecto gouldii Peters

Central flying fox

Specimens:— Skins and skulls: 0198 ♂, Tais; 0294-5 ♀, 0296 ♂, 0297 ♀, Morehead; 0339 ♀, Wando.

Notes: The central flying fox was previously unrecorded from New Guinea (McKean, 1970) but Tate (1952) states that in 1937 he collected what was apparently the identical race at Bugi, on the southern coast of New Guinea. This species is recorded from the Malay Archipelago (Laurie and Hill, 1954), from Queensland and the Torres Strait (McKean, 1970), and from the Northern Territory (Calaby and Keith, 1974). Specimens were obtained from scattered sites throughout the survey area in June and September 1973.

Pteropus neobibernicus papuanus Peters & Doria

Bismarck flying fox

Specimens:— Skins and skulls: 0145-7 ♂, Bula; 0205-6 ♂, Tais; 0298 ♂, Morehead. Skulls: 0050-2 unsexed, Dimisisi.

Pteropus scapulatus Peters

Collared flying fox

Specimens:— Skulls only: 0065, 0199-201, 0203, all unsexed, Mari.

Notes: Like the central flying fox, this Australian flying fox (Ride, 1970) was also previously unrecorded from New Guinea. It was collected by natives along the coastal strip between the Morehead and Wassi Kussa Rivers in April and June 1973.

Dobsonia moluccensis magna Thomas

Greater naked-backed bat

Specimens:— Skins and skulls: 0055-8 unsexed, Mari; 0159 ♂, 0167-8 ♂, 0174-7 ♂, Bula; 0197 ♂, Tais. Skull only: 0196 ♂, Tais.

Notes: This bat was captured only along the coastal strip. Like all of the larger flying foxes it was captured using a shotgun.

Macroglossus lagochilus nanus Matschie

Long-tongued fruit bat

Specimens:— Skins and skulls: 0123 ♀, Morehead; 0128 ♀, Tonda; 0132-4 ♀, 0262-3 ♀, Mibini; 0149 ♂, 0150 ♀, 0151-2 ♂, 0153 ♀, 0154-5 ♂, 0156-8 ♀, 0161 ♂, 0169 ♂, 0171 ♀, 0173 ♂, Bula; 0195 ♀, Tais; 0209 ♂, 0221-2 ♂, 0231 ♂, 0235-7 ♀, 0239 ♀, 0240 ♂, 0241 ♀, 0243 ♀, Wando; 0277-8 ♂, 0280 ♀, 0281 ♂, 0282 ♀, Mari.

Notes: The usual method of capture for this common species was mist netting in the gardens of local villagers although sleeping animals were sometimes captured

from the undersides of banana leaves. In June 1973 two of the captured females had enlarged teats.

Syconycteris crassa papuana (Matschie)

Common blossom bat

Specimens:— Skins and skulls: 0086♀, 0087♂, 0088♀, 0089-91♂, 0094♀, Morehead; 0230♀, 0238♂, 0244♂, Wando.

Notes: The capture techniques for this bat were the same as for the long-tongued fruit bat.

Syconycteris australis (Peters)

Southern blossom bat

Specimens:— Skin and skull: 0266♀, Mibini.

Notes: Only one specimen of this bat was collected using mist nets in *Melaleuca* savannah.

Nyctimene albiventer (Gray)

Common tube-nosed bat

Specimens:— Skins and skulls: 0252♂, Tokwa; 0265♀, Mibini.

Notes: One of these bats was mist netted in *Melaleuca* savannah and the other in monsoon forest.

Nyctimene cephalotes (Pallas)

Pallas' tube-nosed bat

Specimens:— Skins and skulls: 0279♀, Mari; 0283-5♀, Bula.

Notes: This species was previously recorded from the Celebes east to north-west West Irian and Ruk Island in the Admiralty Islands.

Family Emballonuridae

Taphozous nudicluniatatus De Vis

Bare-rumped tomb bat

Specimen:— Skin and skull: 0288♂, Wando.

Taphozous mixtus (Troughton)

Intermediate tomb bat

Specimen:— Skull only: 0001 unsexed, Morehead.

Family Molossidae

Tadarida jobensis (Miller)

Wrinkle-lipped mastiff bat

Specimens:— Skins and skulls: 0134-8♀, 0139♂, 0140-1♀, Rouku.

REPORT ON A COLLECTION OF MAMMALS

Notes: All of these specimens were collected from holes in the trunks of coconut palms by local villagers.

Tadarida beccarii (Peters)

Beccari's mastiff bat

Specimens:— Skins and skulls: 0207 ♀, 0208 ♂, 0212 ♂, 0214 ♀, 0216 ♀, Wando; 0261 ♀, Morehead.

Notes: This bat was collected from holes in *Melaleuca* trees.

Family Vespertilionidae

Pipistrellus tenuis Temminck

Lesser New Guinea pipistrelle

Specimens:— Skins and skulls: 0077-8 ♀, 0079 ♂, 0080-1 juv. ♂, 0082 ♀, 0116 ♂, Rouku; 0247 ♂, Mari; 0257 ♂, Morehead; 0273-4 ♀, Mata.

Notes: This common species was collected from coconut palms, banana trees, a staghorn fern, and wooded areas in general. A female (0082) caught in April 1973 was almost at the termination of her pregnancy.

Nycticeius sanborni (Troughton)

Sanborn's evening bat

Specimens:— Skins and skulls: 0031-3 ♂, 0034 ♀, Dimisisi; 0163-4 ♂, Bula.

Notes: All these specimens were collected from houses in native villages.

Order RODENTIA

Family Muridae

Hydromys chrysogaster beccarii Peters

Common water rat

Specimens:— Skins and skulls: 0272 ♂, Morehead; 0301 ♂, 0303 ♂, Mibini.

Pseudomys delicatula Gould

Native mouse

Specimens:— Skins and skulls: 0048 ♂, 0120 ♂, 0260 ♂, 0286-7 ♀, 0290 ♂, 0292 ♀, Morehead; 0302 ♂, Mibini. In spirit: 0325 ♂, Morehead.

Notes: This species is the first recorded for Papua New Guinea. It appeared to be fairly common and was collected in tall mixed savannah using pit traps. This is the second genus from the typically Australian subfamily Pseudomyinae to be found in New Guinea, the first being *Conilurus* (Schodde and Calaby, 1972).

Melomys lutillus muscalis (Thomas)

Little melomys

Specimens:— Skins and skulls: 0009♂, 0075♀, 0084♂, 0248-9♀, Morehead; 0025-6♀, 0142♂, 0307♀, 0321-2♂, 0323♀, Mibini; 0028♂, Tonda; 0035-7♂, 0038♀, 0044-5♂, 0072-3♂, 0097♂, 0100-1♂, 0103♀, 0105♂, 0106♀, 0109-10♂, 0210♂, 0215♂, 0219♂, 0223 unsexed juv., 0224♀, 0226 juv.♂, 0232♀, Wando; 0062 unsexed, Mari; 0122♂, Uparua; 0162♀, 0170♂, Bula; 0182♂, 0185♂, 0188-90♂, Tais.

Notes: This very common mouse was collected over most of the survey area. A female caught in April 1973 was pregnant with three fetuses (0075).

Melomys rufescens niviventer Tate

Rufescent melomys

Specimens:— Skins and skulls: 0179♂, 0267♂, 0269♀, Bula; 0218♀, 0220♂, Wando. In spirit: 0308♂, 0309 juv.♂, Mibini.
Skull only: 0003♂, Mibini.

Uromys caudimaculatus aruensis Gray

Mottle-tailed tree rat

Specimens:— Skins and skulls: 0053♀, 0305♀, Mibini. Skulls only: 0005♀, 0313♀, Mibini; 0335 unsexed, Bimadebun. In spirit: 0310♂, Mibini; 0329 juv.♀, 0330-1♂, Bimadebun.

Rattus rattus (Linnaeus)

House rat

Specimens:— Skins and skulls: 0133♀, 0275♀, 0306♀, Morehead.

Notes: All specimens of this introduced rat were collected in the government warehouse at the Morehead Patrol Post.

Rattus sordidus (Gould)

Dusky field rat

Specimens:— Skins and skulls: 0054♂, Dimisisi; 0074♂, 0085 juv.♂, 0092 unsexed juv., 0095♂, Morehead; 0121 juv.♂, 0124 unsexed juv., Uparua; 0304♂, Mibini. Skull only: 0007 unsexed, Morehead.

Rattus leucopus (Gray)

Southern spiny rat

Specimens:— Skins and skulls: 0015♀, 0016-7♂, 0093♂, 0255♀, 0258♀, 0259 unsexed, 0299♀, Morehead; 0018♀, 0022♀, Dimisisi; 0027♂, 0029♀, 0129♂, Tonda; 0068♂, 0099♀, 0217♂, Wando; 0165♀, 0172♂, 0178♀, Bula. Skull only: 0002♀, Morehead.
In spirit: 0337♀, Bula.

REPORT ON A COLLECTION OF MAMMALS

Conilurus penicillatus randi Tate & Archbold
Brush-tailed rabbit rat

Specimen:— In spirit 0341 ♀, Morehead.

Notes: This subspecies was represented previously by only one other specimen, caught by Tate in 1936. This recent specimen was caught in an Elliot trap baited with pieces of casava, coconut, and a ball of oatmeal-honey mixture. The trap was set in tall mixed savannah.

Order CARNIVORA

Family Canidae

Canis familiaris Linnaeus
Domestic dog

Specimens:— none

Notes: In 1973 dogs from the villages were just beginning to become feral and form small packs on the Bula Plains. They preyed mainly on the large rusa deer herd found there.

Order ARTIODACTYLA

Family Suidae

Sus scrofa papuensis Lesson & Gasnot
Domestic pig

Specimens:— none

Notes: The feral pig was present throughout the survey area and was the most sought after food of native villagers.

Family Cervidae

Cervus timorensis Blainville
Rusa deer

Specimens:— none

Notes: This species was introduced at Merauke about 1920 by the Dutch (Downes, 1969), and has since spread over most of the Transfly. These animals are found mainly on the grassland strips bordering the rivers, and on the Bula plains.

ACKNOWLEDGEMENTS

This study was conducted under the aegis of the Department of Agriculture, Stock and Fisheries Wildlife Section.

I wish to thank Dr. Michael Archer of the University of New South Wales for his assistance in preparing this paper and Mr. L. Hay for delineating the map.

REFERENCES

- ANDERSON, K. (1912). Catalogue of the Chiroptera in the Collection of the British Museum, I, Megachiroptera. British Museum (National History). London.
- CALABY, J. H. and KEITH K. (1974). Mammals. *In* Fauna Survey of the Port Essington District, Cobourg Peninsula, Northern Territory of Australia. Frith, H. J. and Calaby J. H. (Eds.). C.S.I.R.O., Div. Wildl. Res. Tech. Paper No. 28, 179-208.
- DOWNES, M. C. (1968-9). Deer in New Guinea. Part II: A preliminary note on the distribution of deer in the Territory of Papua and New Guinea. *Papua New Guinea Agric. J.* 20, 95-9.
- HILL, J. E. (1961). Indo-Australian bats of the genus *Tadarida*. *Mammalia* 25, 29-56.
- KOOPMAN, K. (1973). Systematics of Indo-Australian *Pipistrellus*, *Period. Biol.* 75, 113-116.
- LAURIE, E. M. O. and HILL, J. E. (1954). List of land mammals of New Guinea, Celebes, and adjacent islands, 1758-1952. British Museum (National History). London.
- LIDICKER, W. Z. and ZEIGLER, A. C. (1968). Report on a collection of mammals from Eastern New Guinea including species keys for fourteen genera. *Univ. Calif. Publ. Zool.* 87, 1-64.
- McKEAN, J. L. (1970). Geographical relationships of New Guinea bats (Chiroptera). *Search* 1, 244-5.
- McKEAN, J. L. (1972). Notes on some collections of bats (Order Chiroptera) from Papua New Guinea and Bougainville Island. C.S.I.R.O., Div. Wildl. Res. Tech. Paper No. 26, 1-35.
- MENZIES, J. L. (1973). A key to the rats of the genera *Rattus*, *Melomys* and *Pogonomelomys* on the New Guinea mainland. *Univ. Papua New Guinea, Dept. Biol. Occas. Papers: No. 2*, 1-16.
- PAIJMANS, K., BLAKE D. H., BLEEKER P. and McALPINE J. P. (1971). Land resources of the Morehead-Kiunga Area, Territory of Papua New Guinea. C.S.I.R.O., Land Res. Sers. No. 29, 1-125.
- RIDE, W. D. L. (1970). *A Guide to the Native Mammals of Australia*. (Oxford Univ. Press, Melbourne).
- SCHODDE, R. and CALABY, J. H. (1972). The biogeography of the Australo-Papuan bird and mammal faunas in relation to Torres Strait. *In* Bridge and Barrier: The Natural and Cultural History of Torres Strait. D. Walker (Ed.) *Aust. Natl. Univ., Res. Sch. Pacific Studies, Dept. Biogeography & Geomorphology, Publ. BG/3*, 257-300.
- TATE, G. H. H. (1945). Results of the Archbold Expeditions. No. 52. The marsupial genus *Phalanger*. *Amer. Mus. Novitates* No. 1283, 1-31.
- TATE, G. H. H. (1947). Results of the Archbold Expeditions. No. 56. On the anatomy and classification of the Dasyuridae (Marsupialia). *Bull. Amer. Mus. Nat. Hist.* 88, 97-155.
- TATE, G. H. H. (1948a). Results of the Archbold Expeditions. No. 60. Studies in the anatomy and phylogeny of the Macropodidae (Marsupialia). *Bull. Amer. Mus. Nat. Hist.* 91, 233-51.
- TATE, G. H. H. (1948b). Results of the Archbold Expeditions. No. 60. Studies in the Peramelidae (Marsupialia). *Bull. Amer. Mus. Nat. Hist.* 92, 313-46.
- TATE, G. H. H. (1951). Results of the Archbold Expeditions. No. 65. The rodents of Australia and New Guinea. *Bull. Amer. Mus. Nat. Hist.* 97, 183-430.
- TATE, G. H. H. (1952). Results of the Archbold Expeditions. No. 66. Mammals of Cape York Peninsula with notes on the occurrence of rain forest in Queensland. *Bull. Amer. Mus. Nat. Hist.* 98, 563-616.
- TROUGHTON, E. Le G. (1925). A revision of the genera *Taphozous* and *Saccolaimus* (Chiroptera) in Australia and New Guinea, including a new species and a note on two Malayan forms. *Rec. Aust. Mus.* 14, 313-41.